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ABSTRACT

This handbook provides information and guidelines to assist college administrators and researchers in calculating the economic impact of their community college on its locality. First, background is presented on an economic impact project conducted in New Jersey to help support the case for increased state and county funding to community colleges. Next, section I discusses three categories of college-related local expenditures (i.e., college, staff, and student expenditures); ways of determining the number of jobs attributable to the college; and the operation of the income multiplier in determining indirect spending generated by a college's presence. Section II lists 10 information needs of the economic impact model and identifies sources for this information. Section III provides a step-by-step process to determine economic impact, listing the dollar amounts to be calculated and providing the formulas for these calculations. Section IV explains additional calculation variables needed for the completion of the study, i.e., estimates of non-housing expenditures, in-state and in-county expenditures, and percentages of renters in the county and average rents. A comprehensive bibliography is presented in section V. Finally, section VI provides a set of model graphics for the display of economic impact data. (HB)

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Research and Planning Committee

Council of County Colleges of New Jersey

HANDBOOK

FOR

CONDUCTING A STUDY

OF THE ECONOMIC IMPACT

OF A COMMUNITY COLLEGE

(March 1983 - First Edition)

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PREFACE

This Handbook for Conducting a Study of the Economic Impact of a New Jersey Community College has been produced for use by chief business officers, research administrators and others who wish to estimate the economic impact of a community college on its locality. This Handbook provides a brief explanation of the basic rationale for assessing each of the three types of economic impact utilized in A Study of the Economic Impact of the Community Colleges in the State of New Jersey, published in March 1983 by the Research and Planning Committee of the Council of County Colleges of New Jersey. The Study and an executive summary of the report are available from the Office of Research and Development at Brookdale Community College. The four types of economic impact explained in this Handbook are:

1. College expenditures
2. Student expenditures
3. Staff expenditures
4. Jobs related to the presence of the college

This Handbook contains all the necessary information needed to complete an economic impact study comprised of the above four elements. It also contains an explanation of the multipliers that are needed, an explanation of data sources, and explanation of the calculation of each of the impact equations, and a model impact survey format.

G. Jeremiah Ryan

INTRODUCTION

The interaction of the economy and higher education has been in evidence since the early establishment of colleges and universities in the United States. In relatively recent years, there has been sharpened recognition and improved understanding of this interdependence.

Educators and economists have been measuring the economic impact of colleges for about twenty years. In essence, they have treated colleges as business enterprises, excluding the long-term educational benefits of existence and measuring the current direct economic contribution to the community. Community colleges have been the focus of much of this activity.

Economic impact studies are attempts to measure the circulation of college expenditures in the local economy. The studies measure employment, business volume, tax revenues, bank credit and personal income, and state and federal revenues. They also employ multipliers to more accurately measure cash flow.

Economic impact studies are of substantial value to administrators and faculty at community colleges because they provide comprehensive data for political purposes. Without them, endeavors to achieve greater local and state appropriations will be handicapped by the lack of tangible and reliable information on the measurable economic returns to be expected from the dollars invested in community colleges. The results of economic impact studies often are surprising to the public and, indeed, to the academic community in terms of the

prominent economic status of the college as an employer, consumer of goods and services, investor and property owner, and a conduit through which funds are redirected to local business and industry.

An economic impact study should enable a community college to improve its position with its funding sources. Community and college relations are documented. Political leaders are made aware of the tax burden eased and tax revenues generated. Faculty and staff become more aware of their contribution to the economy. Taxpayers see that their outlay does not just disappear and college administrators have a useful tool in making decisions about the future direction and priorities of their institutions.

New Jersey Perspective

The community college picture in New Jersey mirrors that in the rest of the nation. Sector-wide enrollments continue to creep upward as public appropriations remain constant. State appropriations increased only five percent in FY1982 and not at all in FY1983. In fact, state appropriations per full time equivalent community college student have steadily decreased over the past five years because enrollments have surpassed the number funded by the State. The "budgeted" full time equivalent figure has remained almost constant for community colleges for many years while other sectors have made substantial gains.

The counties that sponsor community colleges are pushed to the limit by state and federal mandated programs. In addition, New Jersey has had a statutory five percent cap on annual increases in expenditures.

With the economy as unpredictable as it is today, and with the current negative attitude toward new taxes, community colleges may not have as easy a time in the future with their county sponsors. Economic impact arguments will become more necessary.

Public officials in New Jersey appear to be receptive to these economic impact arguments. New Jersey state and local governments are busy trying to improve tax structures, transportation systems and marketing approaches in attempts to keep the businesses they have while becoming more attractive to new enterprises.

THE ECONOMIC IMPACT PROJECT

In 1971, the American Council of Education published a research model with the expressed purpose of helping colleges and universities study the economic impact of a college's or university's expenditures on its community. This was the culmination of more than two years' work by two economists, John Caffrey and Herbert Isaacs. The model uses generally accepted economic principles and has received wide acceptance by colleges and universities throughout the United States.

The Research and Planning Committee of the Council of County Colleges of New Jersey, through a survey of research needs and priorities of top administrators in New Jersey community colleges, identified impact studies as the highest priority research need. As a result of this finding, the Research and Planning Committee commissioned G. Jeremiah Ryan of Brookdale Community College to direct an economic impact project.

The goal of the project was to assist the New Jersey community colleges, and the community college sector as a whole, in making a clear economic case for increased county and state appropriations for operating budgets in upcoming fiscal years.

The ACE model used twelve submodels to gather information and calculate the various kinds of economic impact. Since the model was developed for use by four year colleges and universities, it contained several areas which were not pertinent to two-year community colleges. One such submodel calculated the economic impact of student housing and fraternities and sororities. Because of the peculiarities of community colleges, it was impractical to use some of the submodels. Therefore, the final model which was used accentuated the submodels most directly applicable to community colleges. The final model also accentuated simplicity and rapidity in the gathering of data and the calculation of estimates.

The project had an advisory committee that assisted in determining the scope and nature of the three proposed products. The members included the following individuals: Chairperson, Research and Planning Committee, Council of County Colleges; Special Assistant to the Council of County Colleges; Chairperson, County College Business Officers Association of Institutional Researchers. The committee communicated by telephone and mail.

As part of the project, the assistance of the following New Jersey organizations was solicited and received: the Research

and Planning Committee, Economic Development Committee and Legislative Committee of the Council of County Colleges; the County College Business Officers Association; the Community College Association of Institutional Researchers; and the New Jersey County College Public Relations Council.

Brookdale Community College provided the following support to the project: director's time; secretarial time; typesetting and printing time and material; computer machine and personnel time; clerical time and materials; keypuncher time and materials; computer data analyst time; and telephone, postage and travel expenses.

THE HANDBOOK

This Handbook is designed to be used by New Jersey's community colleges in conjunction with the report A Study of the Economic Impact of the Community Colleges in the State of New Jersey. The theory explained in the report is not repeated here. This document is a "how-to" manual for the administrator who may wish to update data for future studies.

The procedures detailed in this Handbook were used by seventeen New Jersey community colleges in a cooperative effort conducted in the Winter of 1982-83. It is believed that the procedures are practical for New Jersey community colleges; however, it may be best for some community colleges to adapt parts of the procedures to better meet their needs.

This Handbook is divided into 6 sections. Section I is an explanation of the three types of economic impact used in the Project

to help the estimator have a general understanding of the concepts inherent in an economic study. Section II contains a listing of all the information necessary to complete a study and where the data is to be found. Section III is a step-by-step process to calculate economic impact on the three different areas. Section IV is an explanation of the calculation variables necessary for the completion of the study. Section V is a comprehensive bibliography. Section VI is a set of model graphics for the display of economic impact data.

Section I

Definitions of Annual Estimated Impacts

College-Related Local Expenditures.

College-related local expenditures are the primary estimate that is produced by the procedures detailed in this Handbook. Three of the four impact measures are included in this category. The expenditures are computed from data taken from college business records, and information about faculty-staff expenditures obtained from census information. Student local expenditures are computed from standard financial aid data. Full-time student expenditures include meals, transportation, entertainment, textbooks, class supplies, and miscellaneous expenditures. Part-time student expenditures include only transportation, textbooks, and class supplies.

Number of Local Jobs Attributable to the Presence of the College.

This variable includes two parts. The first is the number of full-time jobs on the college payroll which is computed by summing the full-time faculty and staff of the college living in the County.

The second is the number of full-time jobs attributable to the total local expenditures which can be associated with the college and multiplying this total expenditure by .00007, a coefficient representing the number of jobs per dollar expenditure recommended by the ACE Handbook.

The Concept of the Income Multiplier

The concept of the income multiplier is an important element in the equation systems presented in this Handbook. Caffrey and Isaacs have explained the concept as follows:

Appriximately 35 cents of a dollar spent in local business establishments by community residents is returned to the spenders as income. The balance, approximately 65 cents, is spent by local business establishments for materials and supplies from other local enterprises (including local taxes) or for goods and services produced outside the community (including non local taxes). But this is only the first round of transactions. The income accruing to local residents from this initial round is partially respent in the local business community. (Some is saved; some is paid out in taxes and fees to federal, state, and local governments; and some is spent outside the community.) Again, on the average, 35 cents of the dollar spent locally is returned in the form of income. This recycling process continues with diminishing increments at each stage. Eventually, income received by local residents from the initial dollar spent totals approximately 66 cents. The ratio of total income, 66 cents, to the initial income received, 35 cents, is almost two to one, 1.9:1.0.

Since it measures the multiple impact of an initial income stimulus, 1.9 is called the income multiplier. The concept is useful in demonstrating the various repercussions of direct stimuli, such as the described consumer spending and income. Similar indirect effects

are carried over to local employment and to transactions between local business establishments. A multiplier of 1.9 is the average among those computed for differing geographic regions; the range being 1.2 to 3.0. The multiplier range for entire states is 2.5 to 3.0. The larger multiplier results because a State has such a varied economic base that fewer dollars "leak" out to other regions. The choice of 2.0 for counties in New Jersey is believed to be both reasonable and conservative.

Section II

Required Information

The following college information is needed to calculate the four types of economic impact.

Information Required	Source of Information
1. Total College Expenditures	1. The source of information should be the end of fiscal year audit. This figure must exclude salaries, internal items and transfers and taxes.
2. Percentage of College expenditures, as reported in #1, spent in County	2. The source of this information is College Business Records. It may be computed as follows: a. Actual calculation of all in County purchases for a Fiscal Year. b. Review three different months total expenditures. Determine percentage spent in County.
3. Total Student Activity Expenditures	3. The source of this information should be the Student Activities office. The total should include intercollegiate athletic expenditures. The total should include programs not only generated by fees but also by admissions and fund raising activities of clubs and organizations.
4. Total number of College employees	4. This information may be obtained from calendar year payroll records. Other possible sources of information are W-2 submissions or annual budget data.
5. College employees who live in County	5. This information may be obtained by reviewing address information on payroll records or in College directory. If part-time data is not readily available, the full-time percentage should be used.

Information Required	Source of Information
6. Total disposable income available to College employees	6. The source of this information is College Business Records. The figure is money paid directly to staff and does not include taxes and retirement.
7. Total number of full-time students	7. This information is available from end of fiscal year audit or from HEGIS submissions.
8. Total number of part-time students	8. This information is available from end of fiscal year audit or from HEGIS submissions.
9. Average annual college related expenditures by full-time students	9. This information is available from the Financial Aid office. The figure should exclude tuition and fees. The estimate for a dependent student should be used.
10. Average annual college related expenditures by part-time students	10. This information is available from the Financial Aid office. The figure should exclude tuition and fees. The estimate for a dependent student should be used.

Section III

Calculations of Economic Impact

The following detailed calculations are necessary to complete the estimation of local economic impact. The item numbers are a continuation from Section II. The instructions refer to item numbers in both Sections I and II.

Item	Instructions	Estimate
11. Total Student Government expenditures spent in County	11. This figure may be found by applying percentage computed in #2 to total reported in #3.	$_____
12. College expenditures spent in County	12. This figure may be found by applying percentage computed in #2 to total reported in #1.	$_____
13. Total in County expenditures by the College	13. This figure may be computed by adding #11 and #12.	$_____
14. Disposable income of in County employees spent in County on non-housing items	14. This figure may be obtained as follows: Disposable Income #6 X Percentage of in County Staff #5 X Estimate of non-housing expenditures X Estimate of in County expenditures (Column B)	$_____
15. Expenditures of out-of-County full-time employees spent in County on non-housing items	15. This figure may be obtained as follows: Total number of out-of-County Full-time employees 4a - 5a x $1000.00	$_____

Item	Instructions	Estimate
16. Rental expenditures by full time college staff living in County	16. This figure may be computed as follows: Total full-time staff living in-County X County percentage who rent (Column C) X County Mean Rent (Column D) X 12 Months	$_____
17. Total employee expenditures in County	17. The total in-County employee expenditures may be computed as follows: 14 + 15 + 16	$_____
18. Total expenditures by full-time students	18. This figure is computed by the following method: 17 X 9	$_____
19. Total expenditures by part-time students	19. This figure is computed by the following method: 8 X 10	$_____
20. Total expenditures by students	20. This figure is computed by adding 18 and 19.	$_____
21. Total in-County expenditures by the College	21. #13	$_____
22. Total employee expenditures in County	22. #17	$_____
23. Total Student expenditures in-County	23. #20	$_____

Item		Instructions	Estimate
24.	Total initial economic impact of the College on the County	24. 21 + 22 + 23	$_____
25.	Multiplier Effect		2.0
26.	Total Estimated Economic Impact	26. 24 X 25	$_____
27.	Full-time employees living in County	27. 5	_____
28.	Total initial economic impact of the College in the County	28. 24	$_____
29.	Jobs related to the College	29. 24 X .00007	_____
30.	Total full-time employment related to the College	30. 27 + 29	_____

Section IV

Calculation Variables

Four sets of calculation variable have been provided on page 17. Community college personnel may choose to develop their own variables through surveys and analysis of local economic data. The variables are provided here as a guide to what is necessary to complete an estimate of economic impact.

Estimate Of Non-Housing Expenditures

The percentage of expenditures that an average middle income family would spend on non-housing items was taken from the June 9, 1982 edition of New Jersey Economic Indicators. The data was based on an April 1982 report of the Bureau of Labor Statistics that provided an annual estimate of three hypothetical family budgets (lower, intermediate and higher). The time period of the estimate was Autumn 1981.

Estimate of In-New Jersey Expenditures

New Jersey has a significant amount of dollar "leakage" to two of the nation's largest economic markets, New York and Philadelphia. Consequently, it was necessary to estimate how much of each dollar spent by a community college and its staff and students was actually spent in In-County.

The estimates detailed in Column B of the Calculation Variable page were developed after an analysis of the estimated 1981 total retail sales by County. This data was provided in the July 26, 1982 edition of Sales and Marketing Management Magazine. Counties with

retail sales less than $1 billion were assigned an In-County expenditure percentage of .60; between $1 billion and $2 billion, .65; over $2 billion, .70.

These figures are probably very conservative. Most economic impact studies that included surveys of staff expenditure patterns included local spending in the mid .70 range.

County Percentage Who Rent and County Mean Rent

Rental housing expenditures are an important component of the estimated economic impact. The variables detailed in Columns C and D were derived from the Bureau of the Census report entitled Gross Rent and Monthly Owner Housing Costs, 1980 Census, published in October 1982.

Using the 1980 data will give the estimator a conservative estimate, especially as the time of the estimate is further from the census date. The local Office of Economic Development or Planning may have more recent data.

CALCULATION VARIABLES

County	A Estimate of non-housing expenditures	B Estimate of In-County expenditures	C County Percentage Who Rent	D County Mean Rent
Atlantic	.69	.65	.31	$266
Bergen	.67	.75	.26	356
Burlington	.71	.65	.21	292
Camden	.71	.75	.23	254
Cape May	.69	.60	.24	282
Cumberland	.69	.60	.29	241
Essex	.67	.75	.52	252
Gloucester	.71	.65	.18	271
Hudson	.67	.65	.65	232
Hunterdon	.69	.60	.18	338
Mercer	.69	.65	.29	276
Middlesex	.67	.70	.25	308
Monmouth	.69	.70	.23	291
Morris	.67	.70	.19	353
Ocean	.69	.65	.16	311
Passaic	.67	.70	.41	270
Salem	.69	.60	.24	236
Somerset	.67	.65	.20	340
Sussex	.69	.60	.15	329
Union	.67	.70	.30	283
Warren	.66	.60	.25	278
New Jersey	.69	.75	.31	278

Section V

Bibliography

The following listing of over 100 sources of information is provided to give the more ambitious estimator a start at the literature that exists to date on economic impact. Sources found to be particularly helpful in developing this Handbook, and in the preparation of A Study of the Economic Impact of the Community Colleges on the State of New Jersey, have been denoted with an *.

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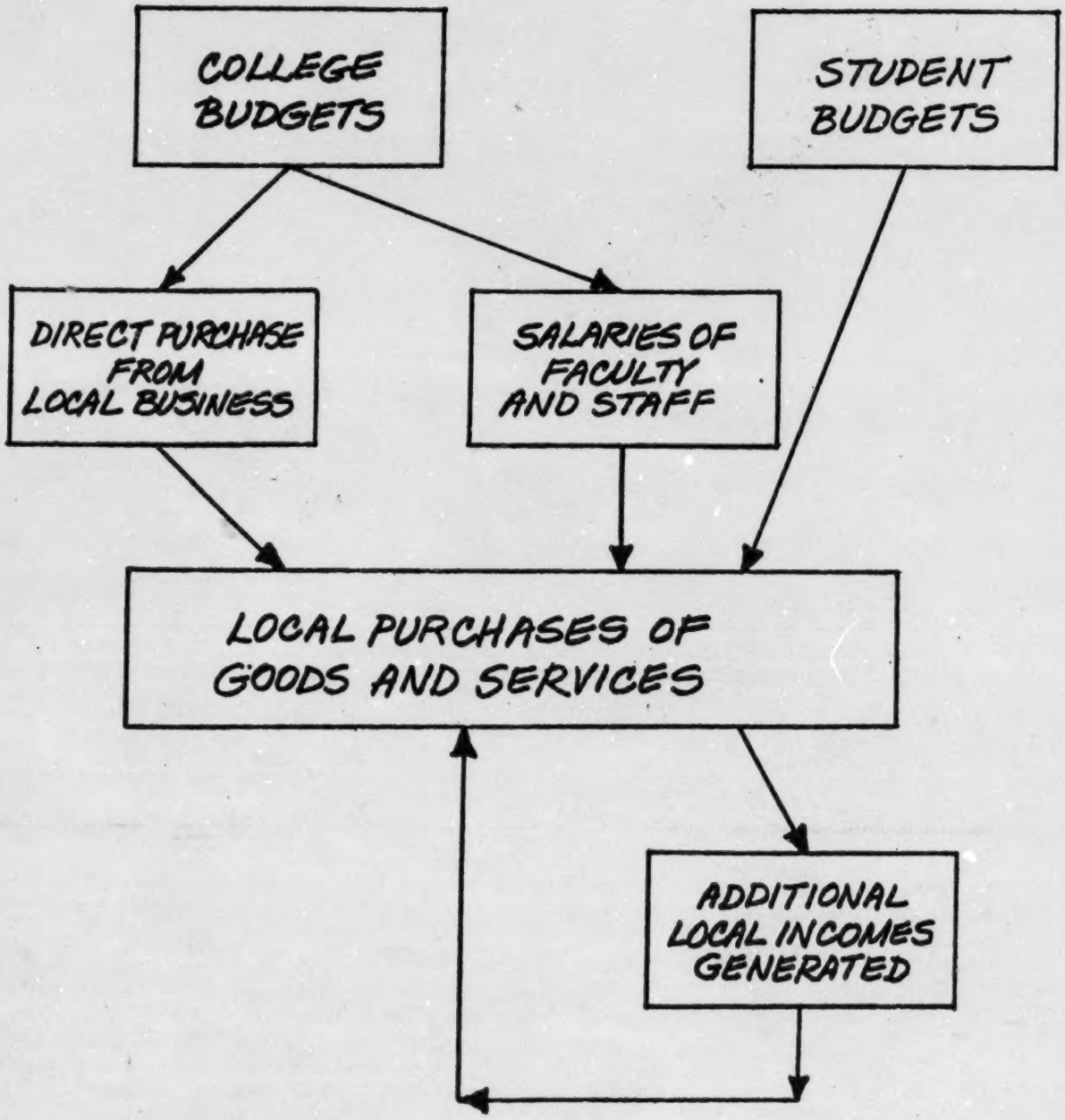
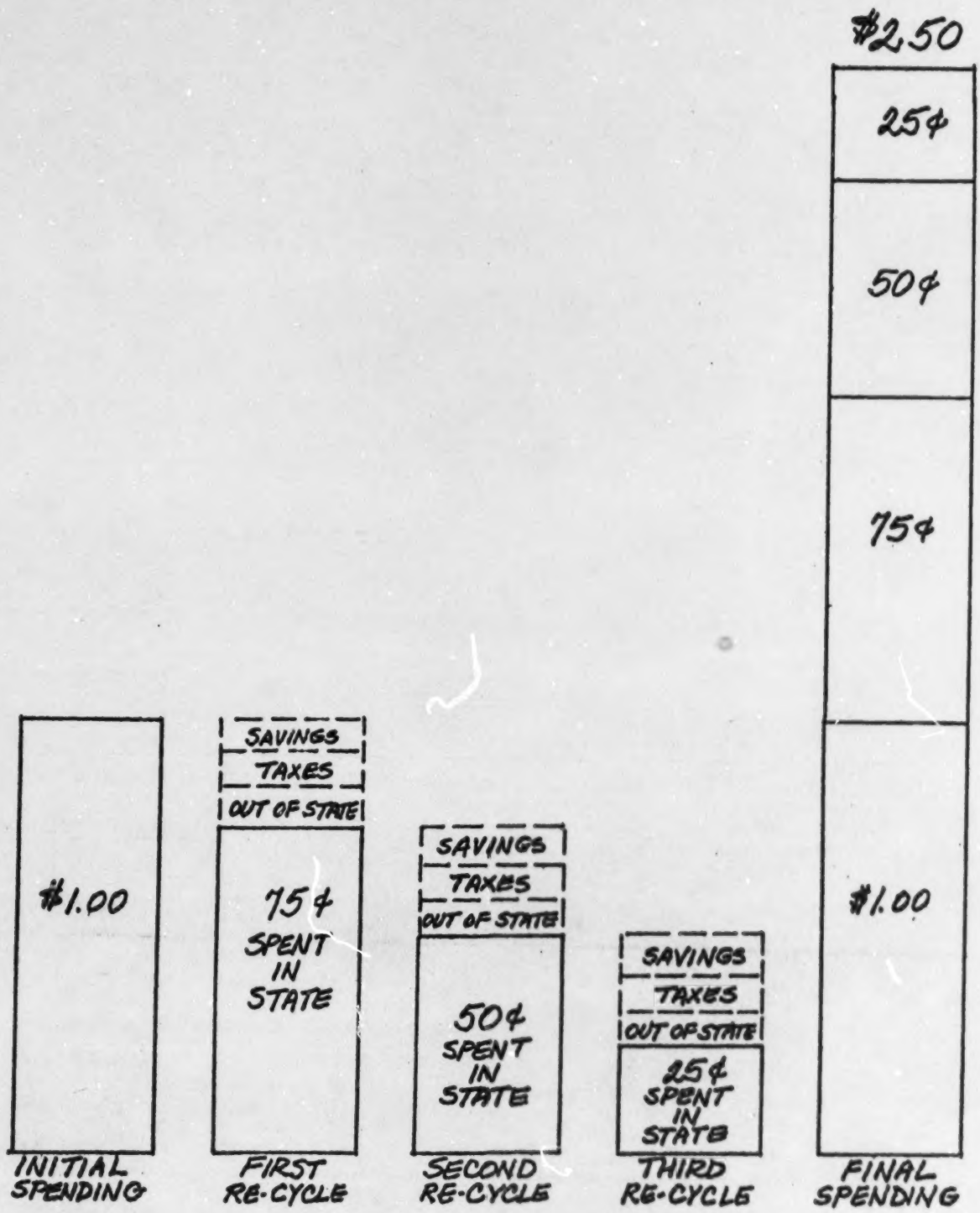
Section VI

Graphics

The graphics that follow were prepared for A Study of the Economic Impact of the Community Colleges on the State of New Jersey. They are provided here as models for the display of economic compact estimates by each community college.

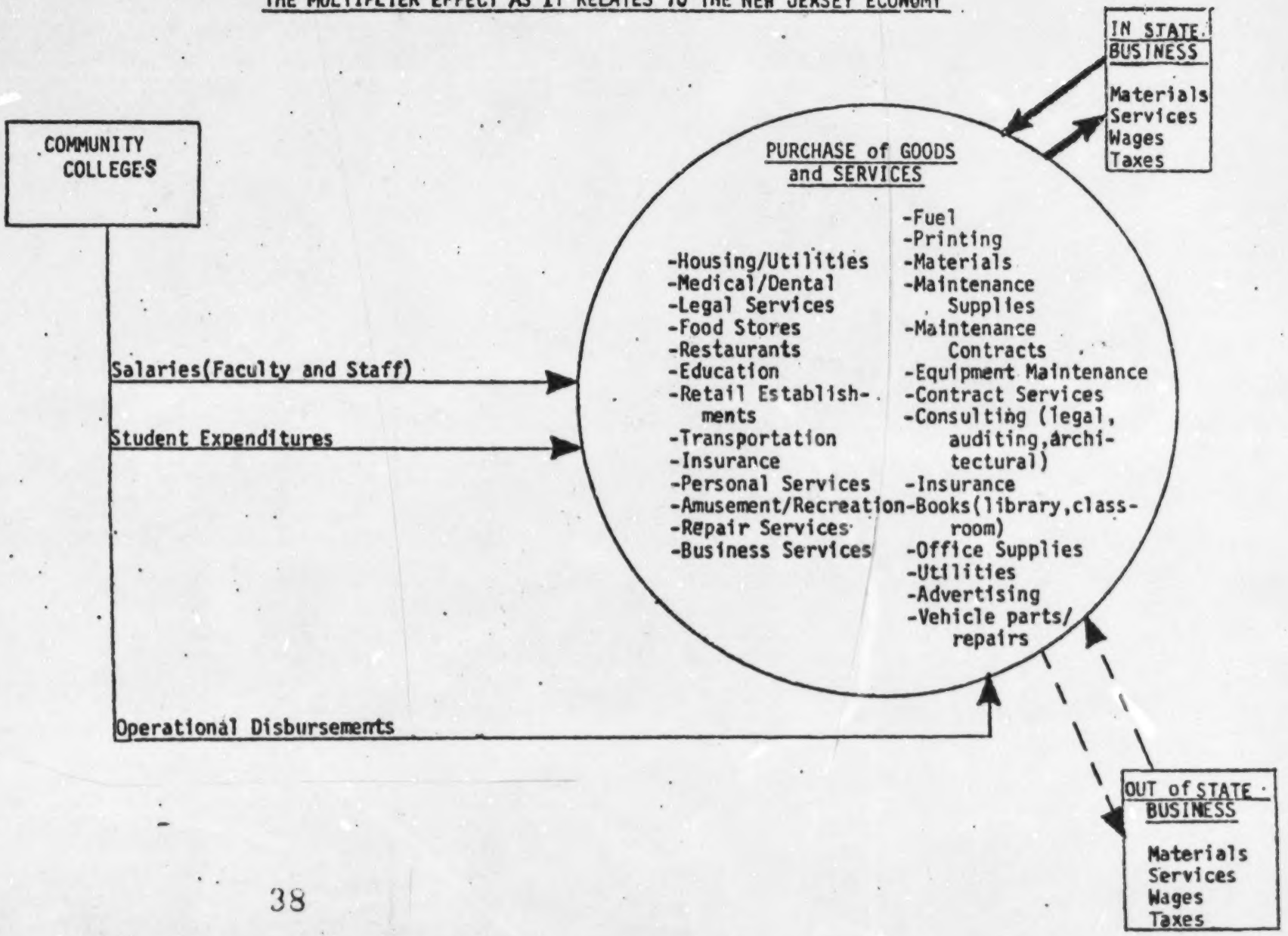

COLLEGE BUDGETS
STUDENT BUDGETS
DIRECT PURCHASE FROM LOCAL BUSINESS
SALARIES OF FACULTY AND STAFF
LOCAL PURCHASES OF GOODS AND SERVICES
ADDITIONAL LOCAL INCOMES GENERATED

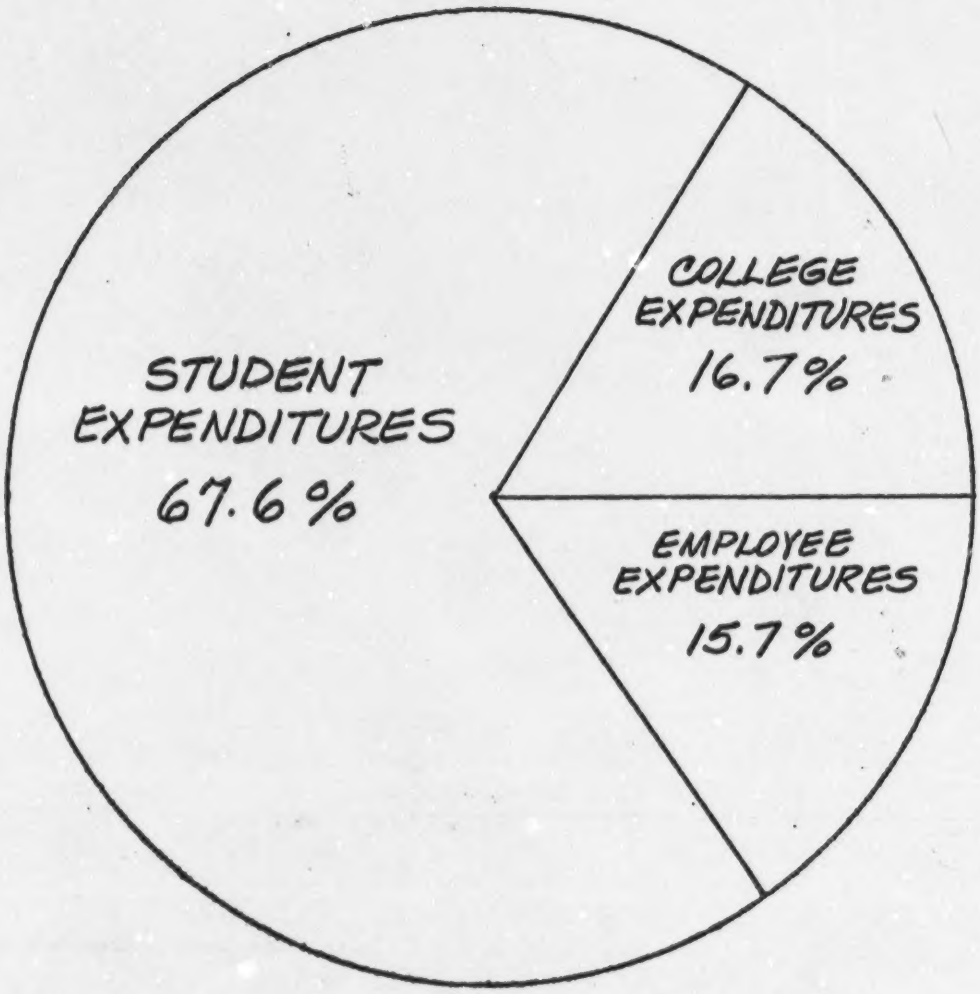
How Economic Impact Works



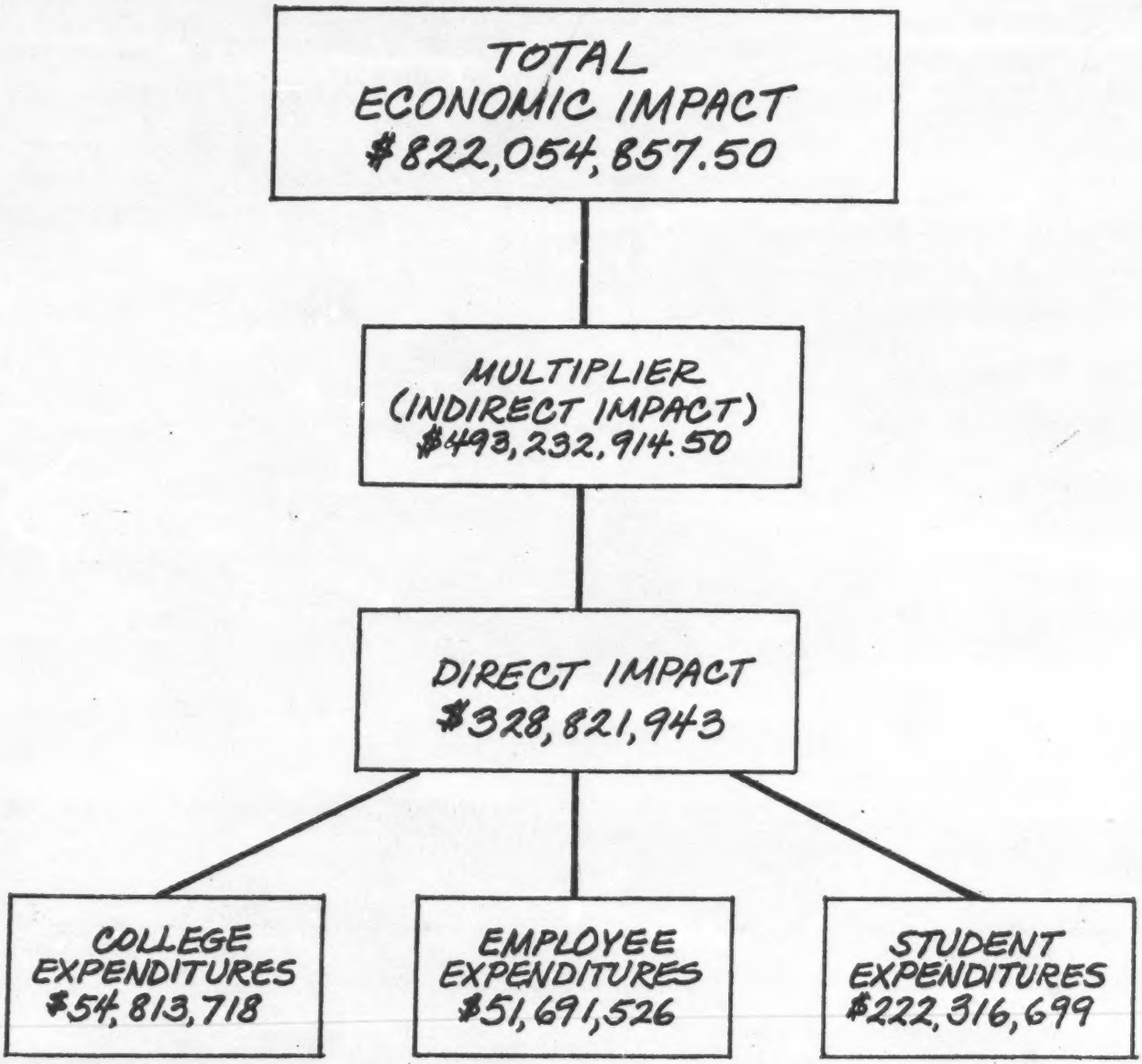
How the Multiplier Works

THE MULTIPLIER EFFECT AS IT RELATES TO THE NEW JERSEY ECONOMY





Percentage Distribution of
Direct Impact of Community College
Spending on New Jersey



Total Economic Impact of the Community College on New Jersey

ERIC Clearinghouse for Junior Colleges
8118 Math-Sciences Building
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Los Angeles, California 90024

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